UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/613,997	07/11/2000	Peter Mahr	RCA 90,262	1754

7590 06/22/2004

Joseph S Tripoli
Patent Operations
Thomson Multimedia Licensing Inc
CN 5312
Princeton, NJ 08543-0028

EXAMINER	
BATTAGLIA, MICHAEL V	
ART UNIT	PAPER NUMBER
2652	14

DATE MAILED: 06/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/613,997	Applicant(s) MAHR, PETER	
	Examiner Michael V Battaglia	Art Unit 2652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 May 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2 and 4-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2,4-7,11-14 and 18* is/are rejected.

7)☒ Claim(s) *8-10 and 15-17* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This action, dated June 3, 2004, is in response to Applicant's amendment, filed March 22, 2004 and entered as a result of the RCE, filed May 20, 2004.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2, 4-7, 11-14, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubo et al. (hereafter Kubo) (US 6,236,630) in view of admitted prior art.

In regard to claim 5, Kubo discloses a disc speed control device for use in a player or recorder of a disc shaped information carrier to read or record data along data tracks, the data being read or recorded using a pick-up, the device comprising: disc actuating means for rotating the disc in a first mode at a constant linear velocity or a second mode at a constant angular velocity (Fig. 1, element 5); the pick-up for reading the data from the rotating disc and producing an output signal representative of scanned data from the rotating disc (Fig. 1, element 6); frequency generating means for generating a rotation speed frequency representative of a rotation speed of the rotating disc (Fig. 1, element 73); signal processing means for processing the output signal of the pick-up and creating a data frequency signal, the data frequency signal being related to a frequency at which the data is scanned by the pick-up (Fig. 1, elements 9-11 and 14); and a single speed processor (Figs. 1 and 3, element 8) including a single speed processing means (Fig. 3,

elements 8a, 8b, 89, 93 and 95) for receiving the data frequency signal and computing a determined rotation speed value for said first mode and said second mode wherein in the first mode the determined rotation speed value further depends on a location of the rotating disc at which the pick-up scans the data. Kubo does not disclose a single speed servo means including a single speed comparator for receiving and comparing the rotation speed frequency signal and the determined rotation speed value and for regulating the disc actuating means in response to the determined rotation speed value. It is noted that Kubo instead directly regulates the disc actuating means with the in response to the determined rotation speed value output from the single speed processor without comparing the determined rotation speed value to the speed at which the disc is actually rotating.

The admitted prior art of Fig. 1 discloses a single speed servo means including a single speed comparator for receiving and comparing the rotation speed frequency signal and the determined rotation speed value and for regulating the disc actuating means in response to the determined rotation speed value (Fig. 1, element 3). The examiner notes that the single speed servo means of admitted prior art drives the disc actuating means using the difference between the target rotation speed and the actual rotation speed while the disc actuating means of Kubo is driven by the target rotation speed regardless of any difference between the target rotation speed and the actual rotation speed. By using the rotation speed frequency signal that is indicative of the actual rotation speed as feedback, the disc actuating means is driven more accurately.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add to the disc speed control device of Kubo the single speed servo means of admitted prior art that receives a rotation speed frequency signal, the motivation being to use the rotation speed frequency signal that is indicative of the actual rotation speed as feedback to more

accurately drive the disc actuator to reach the target rotation speed provided by the determined rotation speed value.

In regard to claim 2, Kubo discloses that the signal processing means comprises a data phase locked loop means which outputs a voltage corresponding to a phase locked loop frequency of a the rate at which the data is read by the pick-up (Fig. 1, element 11 and Fig. 3, element 81), and a reference voltage source which delivers a reference voltage at an input of the speed processor (Fig. 1, elements 14 and 71).

In regard to claim 6, Kubo in view of admitted prior art discloses that the speed servo means which receives the determined rotation speed value, the disc actuating means, and the frequency generating means form a first loop (Fig. 1, elements 5 and 73 of Kubo and Fig. 1, element 3 of admitted prior art); and further comprising: a second loop which provides the determined rotation speed value to an input of the first loop and which provides processing of the data frequency signal in the first mode (Fig. 1, elements 6 and 9-11 and Fig. 3, elements 8a, 8b, and 89).

In regard to claim 7, Kubo discloses the second loop processes: a constant speed value (Fig. 3, element 95) wherein the speed processor outputs a constant value for the determined rotation speed value which may occur in a start phase when the disc is inserted in the player or the recorder, or in the second mode when the player or the recorder is used as a CD-ROM drive (Fig. 4).

In regard to claim 11, Kubo discloses that the second loop comprises: a data phase locked loop which receives the output signal from the pick-up (Fig. 1, elements 9-11 and 14 and Fig. 3, element 81), the data phase locked loop comprising: means for generating a voltage depending on a frequency of a read data rate which is defined as a phase locked loop frequency, a voltage curve

having a correspondence between phase locked loop frequencies and said voltage, and an output of said voltage according to said voltage curve (Fig. 3, element 81); and said speed processor (Fig. 3, element 8 excluding elements 81-82) which receives at its input said output by the data phase locked loop and a reference voltage both of which are compared and, depending on a result of the comparison, outputs a higher or smaller determined rotation speed value (Fig. 3, elements 81-83). The examiner notes that a frequency to voltage converter inherently outputs a voltage according to a voltage curve having a correspondence between phase locked loop frequencies.

In regard to claim 12, Kubo discloses a disc speed control device for use in a player or recorder of a disc shaped information carrier to read or record data along data tracks, the data being read or recorded using a pick-up, the device comprising: disc actuator which rotates the disc in a first mode at a constant linear velocity or a second mode at a constant angular velocity (Fig. 1, element 5); the pick-up which reads the data from the rotating disc and produces an output signal representative of scanned data from the rotating disc (Fig. 1, element 6); frequency generator which generates a rotation speed frequency representative of a rotation speed of the rotating disc (Fig. 1, element 73); signal processor which processes the output signal of the pick-up and creates a data frequency signal, the data frequency signal being related to a frequency at which the data is scanned by the pick-up (Fig. 1, elements 9-11 and 14); and single speed processor (Figs. 1 and 3, element 8) including a single speed processing means (Fig. 3, elements 8a, 8b, 89, 93 and 95) which receives the data frequency signal and computes a determined rotation speed value for said first mode and said second mode wherein in the first mode the determined rotation speed value further depends on a location of the rotating disc at which the pick-up scans the data. Kubo does not disclose a single speed servo including a single speed comparator which receives the rotation speed frequency signal and the determined rotation speed value and which regulates the disc actuating means in

response to the determined rotation speed value. It is noted that Kubo instead directly regulates the disc actuating means with the in response to the determined rotation speed value output from the single speed processor without comparing the determined rotation speed value to the speed at which the disc is actually rotating.

The admitted prior art of Fig. 1 discloses a speed servo which receives the rotation speed frequency signal and the determined rotation speed value and which regulates the disc actuating means in response to the determined rotation speed value (Fig. 1, element 3). The examiner notes that the speed servo of admitted prior art drives the disc actuating means using the difference between the target rotation speed and the actual rotation speed while the disc actuating means of Kubo is driven by the target rotation speed regardless of any difference between the target rotation speed and the actual rotation speed. By using the rotation speed frequency signal that is indicative of the actual rotation speed as feedback, the disc actuating means is driven more accurately.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add to the disc speed control device of Kubo the speed servo of admitted prior art that receives a rotation speed frequency signal, the motivation being to use the rotation speed frequency signal that is indicative of the actual rotation speed as feedback to more accurately drive the disc actuator to reach the target rotation speed provided by the determined rotation speed value.

In regard to claim 4, Kubo discloses that the signal processor comprises a data phase locked loop which outputs a voltage corresponding to a phase locked loop frequency of a rate at which the data is read by the pick-up (Fig. 1, element 11 and Fig. 3, element 81), and a reference voltage source which delivers a reference voltage at an input of the speed processor (Fig. 1, elements 14 and 71).

In regard to claim 13, Kubo in view of admitted prior art discloses that the speed servo which receives the determined rotation speed value, the disc actuator, and the frequency generator form a first loop (Fig. 1, elements 5 and 73 of Kubo and Fig. 1, element 3 of admitted prior art); and further comprising: a second loop which provides the determined rotation speed value to an input of the first loop and which provides processing of the data frequency signal in the first mode (Fig. 1, elements 6 and 9-11 and Fig. 3, elements 8a, 8b, and 89).

In regard to claim 14, Kubo discloses that the second loop processes: a constant speed value (Fig. 3, element 95) wherein the speed processor outputs a constant value for the determined rotation speed value in a start phase when the disc is inserted in the player or the recorder, or in the second mode when the player or the recorder is used as a CDROM drive (Fig. 4).

In regard to claim 18, Kubo discloses that the second loop comprises: a data phase locked loop which receives the output signal from the pick-up (Fig. 1, elements 9-11 and 14 and Fig. 3, element 81), the data phase locked loop comprising: means for generating a voltage depending on a frequency of a read data rate which is defined as a phase locked loop frequency, a voltage curve having a correspondence between phase locked loop frequencies and said voltage, and an output of said voltage according to said voltage curve (Fig. 3, element 81); and said speed processing means (Fig. 3, element 8 excluding elements 81-82) which receives at its input said output by the data phase locked loop and a reference voltage both of which are compared and, depending on a result of the comparison, outputs a higher or smaller determined rotation speed value (Fig. 3, elements 81-83). The examiner notes that a frequency to voltage converter inherently outputs a voltage according to a voltage curve having a correspondence between phase locked loop frequencies.

Allowable Subject Matter

2. Claims 8-10 and 15-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

3. Applicant's arguments filed March 22, 2004 have been fully considered but they are not persuasive. Kubo in view of admitted prior art as interpreted above meets the limitations of claims 2, 4-7, 11-14, and 18. In previous Office Action, paper 9, it was explicitly pointed out that the motor servo and driver circuit (Figs. 1 and 3, element 8) of Kubo was interpreted as a single speed processor (Paragraph 4, lines 5-6). Examiner fails to see how a single speed processor having the claimed function could not also be interpreted as a single speed processor including a single speed processing means having the same function because a black box having function A is no more or less specific than a black box that only includes a black box having the function A. In regard to the single speed servo means including a single speed comparator, both the claimed invention and Kubo in view of admitted prior art use the single speed servo means of admitted prior art.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V Battaglia whose telephone number is (703) 305-4534. The examiner can normally be reached on 5-4/9 Plan with 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. Battaglia

Michael Battaglia

HOA T. NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600
6/21/04